

AVALANCHE!

When snow on a slope gives in to gravity, we know it as an avalanche. Avalanches happen naturally or they are triggered by people—skiers, snowboarders, hikers, snowmobilers, or anyone who is out in mountainous areas in the winter.

Types of Avalanches

There are a few different types of avalanches. The “loose snow” avalanche is fresh snow that spreads out as it tumbles down the mountain, so it rarely gets deep enough to bury someone. “Ice fall” avalanches occur on glaciers, when a chunk of glacier separates from another and drops steeply. There is even the “roof avalanche,” when snow built up on the roof of a house slides off. It can be dangerous if you happen to walk by just as the mass of snow begins to fall!

The Most Dangerous Avalanche

The type of avalanche of greatest concern to hikers and skiers is the “slab avalanche,” which is when a huge chunk of snow comes plummeting down a mountainside in one piece. One of the reasons it is so dangerous is that there are few visible telltale signs that an area may have an avalanche.

A slab avalanche can reach speeds as high as 120 miles per hour. The speed and force of the snow hurtling down the mountain that fast can hurt a person in its path. But often people are most in danger from the debris that comes down along with the snow—trees, rocks, and even your own ski equipment turn into lethal weapons. If you survive all that, suffocation becomes your next problem. The snow can bury you completely. And during the avalanche, the snow compresses so much that you can’t move if you are buried.

Avalanche Recipe

Scientists who study avalanches have determined there are three ingredients necessary to create an avalanche: snowpack, terrain, and weather. These three factors are known as the “avalanche triangle.”

The bond between the different layers of snow, or the “snowpack,” influences if and when a slope of snow will go sliding down the hill. The weather conditions as the snowpack has built up will also impact how the



snow on the slope holds together. And finally, the angle of a slope, the direction the slope faces, and the amount of sun that shines on it during the day all determine the likelihood and the severity of an avalanche.

The Noise Myth

Loud noises do not trigger avalanches. What does trigger them is a sudden increase in weight in just the right area. Ninety percent of avalanches are triggered by the person who gets buried, or by someone who is with that person. Just the weight of one person stepping on just the right spot on a slope of snow can cause the slab of snow to start sliding!

Sadly, the statistics for getting safely dug out of an avalanche are not good. If people with you can dig you out in 15 minutes or less, your chance of survival is excellent. After a half an hour, your chance of survival is very poor.

What Can You Do?

First, never hike or ski alone. Carry rescue equipment with you. And learn to read the signs of a potential avalanche so the weight of your own body doesn’t turn it into a real avalanche!